The lining of the apparatuses is much used up in both processes, and the costs for their maintenance are different in all processes. But one can here also well allocate a portion of the costs to the heading x without disturbing the results, if one assumes that the costs for the renewal of the converter linings are approximately equal to the costs for dolomite and other refractory material, which are needed for the running upkeep of the open-hearth furnaces during working; BO that to the open-hearth working only the entire costs of the large furnace repairs at end of each furnace run muafc bo written to debit, whilst for the pneumatic refining process, those expenditures are contained in the item x.

The fuel consumption in both processes is not inconsiderable. The converters require coke for preheating, which must take place quite frequently, and for the production of the high pressure blast, machine power is requisite. Now, it is able to occur that the necessary fuel for the purpoHO is supplied gratis in the form of blast-furnace gases. Hueh an assumption is not really justified, since this fuel could otherwise obtain productive employment, if the steel works did not admit of it. In order, however, not to make the comparison too favourable for the open-hearth process, let it be assumed that the fuel for the pneumatic process actually costs nothing.

Against this the open-hearth furnace requires gas which must be produced from the special materials suitable therefor. By experiments which have already been made with several furnaces, it has been demonstrated that one is able, in working with molten pig iron, now to work with 20 per cent, of gas coal. That makes, with coal at a price of 12 Marks per ton, 2*4 Marks per ton of steel, which must be placed in the account wholly to the debit of the open-hearth furnace.

Suitable melting materials exhibit different values for each process in the manufacturing costs, in spite of the same price per unit of weight, since from the pig-iron different amounts of finished products result, and also different additions must be employed. The acid Bessemer process does not require them at all; the basic Bessemer process requires lime, and the basic open-hearth process, besides this material